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(54) Title: CELLULAR TRANSPLANTATION FOR HEART REGENERATION

(57) Abstract: Myoblast cells obtained by culturing, particularly from satellite cells or other progenitor cells, are transplanted into tissue such as diseased heart tissue to form healthy repair tissue and reverse disease. This technique can be carried out in various ways and preferably includes a cellular integration factor to assist cellular survival, integration and longevity into the treated organ. Angiogenesis factors such as vascular endothelial growth factor are particularly preferred and may be transgenically expressed by the transplanted cell. Other factors that may be used to augment the procedure include migratory and scaffolding molecules. The methods and materials are particularly useful in combination with an automated cell processor and an automated catheter delivery system. The materials and methods for their use may be applied to the prophylaxis and therapy of damaged hearts, using cells originally obtained from the patient, another human, or another animal.

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